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**ABSTRACT**

The present invention relates to a molecular motor actin binding protein, in particular, to Nuclear Myosin I  $\beta$  (NMI  $\beta$ ) containing a 16 amino acid N-terminal extension involved in transcription. More particularly, this invention is directed to a molecule with oligonucleotide sequence coding for a protein nuclear Myosin I  $\beta$  (NMI  $\beta$ ) containing a 16 amino acid N-terminal extension that co-localizes with, and forms functional complexes with, RNA polymerase II. This invention is also directed to polyclonal and monoclonal antibodies to the 16 amino acid N-terminal extension that block *in vitro* RNA synthesis. This invention is also directed to administration to a cell of polyclonal or monoclonal antibodies to the NMI  $\beta$  16 amino acid N-terminal extension sequence or to an epitope within that sequence to inhibit transcription. Other inhibitors are also suitable. This invention may be used to treat illness through targeted inhibition of cell proliferation.

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